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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,433

05/05/2006

Keiji Icho

2006_0658A

2808

52349

7590

07/09/2009

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EXAMINER

MALANGONE, CARMINE

ART UNIT

PAPER NUMBER

2423

MAIL DATE

DELIVERY MODE

07/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,433	Applicant(s) ICHO ET AL.	
	Examiner CARMINE MALANGONE	Art Unit 2423	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-9 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 03-12-2009 have been fully considered but they are not persuasive.

On Page 12 of Applicant's Arguments/Remarks, Applicant states, in regards to Dudkiewicz et al. (US 2002/0087979), that "Dudkiewicz neither discloses nor suggests 'to calculate, using a predetermined equation, a recommendation factor that is a degree of similarity between the category evaluation values of the programs and the user preference factors, and recommend one or more programs to the user according to the calculated recommendation factor.'" The Examiner disagrees.

Dudkiewicz (see Pars. [0100] – [0131] and also see Figs. 16 and 17) does disclose a predetermined equation (a "desirability score" is calculated) for use in recommending programs based on category evaluation values (metadata category goodness of fit scores) and user preference factors (viewer profile category preference scores).

Specifically, Dudkiewicz discloses in Par. [0100], "the score is a function of the goodness of fit score of the matched category and the preference score of the matched category....After scores for each matched category are determined, the highest score and the category generating the highest score are adopted as the desirability score and category of the programming event." Additionally, Dudkiewicz discloses in Par. [0109], "A process for determining a desirability score for programming events in accordance with a preferred embodiment is shown in Fig. 17. The embodiment is particularly preferred for generating scores to be used in determining a recording schedule that accounts for the combined preferences expressed in more than one

viewer profile.” For the reasons/citations recited above, the anticipation rejection of Claims 1, 8, and 9 has been maintained.

Allowable Subject Matter

2. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Dudkiewicz et al. (US 2002/0087979).

Regarding Claim 1, Dudkiewicz discloses a program recommendation apparatus (Fig. 1) comprising:

a program information storage unit (see Par. [0057], internet server and also see Par. [0061]; production data is typically stored in computer systems) configured to store therein program information of television programs (see Par. [0057], metadata is distributed from an internet server; also see Par. [0061], and [0077], lines 1-6 and Par. [0078]);

a category dictionary (see Par. [0075], lines 24-33; the disclosed thesaurus performs the same function as the category dictionary and therefore considered analogous; the terms in the thesaurus are interpreted as keywords) containing words included in the program information as keywords, where each of the keywords is stored in association with contribution factors (confidence scores) assigned with respect to respective categories, the television programs being classified into the categories (see Par. [0075], lines 24-33 and Par. [0078]);

an evaluation value calculation unit (Dudkiewicz discloses the function of the evaluation value calculation unit and therefore Dudkiewicz must have an evaluation value calculation unit) configured to, for each of the television programs, a) search program information of the television program for the keywords contained in the category dictionary (see Par. [0075], lines 1-17; Fig. 9, el. 50; Fig. 10, el. 220; and also see Par. [0078]), b) for any found keywords, obtain category summations of contribution factors of the found keywords for each of the categories (see Par. [0075], lines 17-33; Fig. 9, el. 52; Fig. 10, el. 222; Par. [0078]; confidence scores are obtained), and c) calculate category evaluation values of the television program according to the category summations of the contribution factors (see Par. [0075], lines 17-36; Fig. 9, el. 54; Fig. 10, el. 224; Par. [0078]; confidence scores are calculated and the program is categorized to relevant categories);

a user-preference-factor storage unit (see Par. [0088], lines 1-13; client device; Par. [0088] lines 52-58) configured to store therein user preference factors (see Par. [0088], lines 1-13 and lines 52-58), each user preference factor indicating a user's preference toward a corresponding category and being shown in numerical form corresponding to the category evaluation values (see Par. [0088], lines 32-40); and

a recommending unit (Dudkiewicz discloses the function of the recommending unit and therefore Dudkiewicz must have a recommending unit) configured to calculate, using a predetermined equation, a recommendation factor that is a degree of similarity between the category evaluation values of the television programs and the user preference factors (see Pars. [0100] – [0131]; an algorithm is disclosed for generating a preferred programming event list to present to the user), and recommend one or more television programs to the user according to the calculated recommendation factors (see Par. [0091], [0099], and [0127]).

The method of Claim 8 is analyzed with respect to the rejection of the apparatus of Claim 1.

The program of Claim 9 is analyzed with respect to the rejection of the apparatus of Claim 1. Moreover, Dudkiewicz discloses operation instructions (interpreted as a program) executable on a processor (Par. [0057], [0060], [0086], and [0147]).

5. Claims 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dudkiewicz in view of Marsh (US 2003/0225777).

Regarding Claim 2, Dudkiewicz discloses all the limitations of Claim 1. Dudkiewicz further discloses

a category evaluation value storage unit (Fig. 9, el. 56; Dudkiewicz discloses storing the category evaluation values and therefore Dudkiewicz must have a category evaluation value storage unit) configured to store therein the category evaluation values of the television programs

Art Unit: 2423

calculated by said evaluation value calculation unit (Par. [0075], lines 17-36; Fig. 9, el. 56 and Fig. 10, el. 226; Dudkiewicz discloses storing program vs. category analysis results), and

a user-preference-factor analysis unit (Dudkiewicz discloses the function of the user-preference-factor analysis unit and therefore Dudkiewicz must have a user-preference-factor analysis unit) configured to

a) obtain category evaluation values from the category evaluation value storage unit (Par. [0075], lines 17-36; Fig. 9, el. 54; Fig. 10, el. 224; Par. [0078]),

b) obtain category summations of the corresponding category evaluation values (Par. [0075], lines 17-33; Fig. 9, el. 52; Fig. 10, el. 222; Par. [0078]),

c) set the user preference factors (Par. [0102]; preference scores) as the category summations of the corresponding category evaluation values respectively, in relation to a summation of the corresponding category evaluation values across the categories (Par. [0102]; Dudkiewicz discloses summing up the pre-summed (See the rejection of Claim 1) category scores in relation to user preference weights; Fig. 16), and

d) store the user preference factors in said user-preference-factor storage unit (Par. [0148]; Dudkiewicz discloses the calculations can result in an index of programs a user can choose to be transmitted; therefore, the user preference factors are inherently stored).

Furthermore, Dudkiewicz discloses category analysis for a user in real-time (Par. [0088], lines 23-27; Par. [0098], lines 13-26).

Dudkiewicz does not disclose a history storing unit configured to store therein a history of programs the user has watched or recorded in the past. Additionally Dudkiewicz does not disclose performing the category analysis for the program history of the user.

Marsh discloses a history storing unit operable to store therein a history of programs the user has watched or recorded in the past (Par. [0036] – [0039]; data is collected at specific intervals) in order to perform an analysis for determining programs that would satisfy user's preferences.

Therefore, it would have been obvious by one of ordinary skill in the art at the time the invention was made to modify the program recommendation apparatus disclosed by Dudkiewicz with the user history feature disclosed by Marsh by incorporating a user history storage device that monitors user viewing history and further updates a user profiles with respect to an analysis of each program in the history so to provide more precise personal profiles-to-program category recommendation results (Marsh; see Par. [0039]).

Regarding Claim 4, Dudkiewicz in view of Marsh further discloses
a storage unit (Par. [0085] and Par. [0086], lines 1-8) configured to store identification information for visually identifying a corresponding category (Dudkiewicz; Fig. 7 and 13; it is further interpreted that similar table are available for each program; Par. [0057], lines 22-27; Par [0072]; Par. [0088], lines 32-35; Dudkiewicz discloses storing program metadata (includes category analysis) and display category scores for a given program; Par. [0090]);

a categorizing unit (Dudkiewicz discloses the function of the categorizing unit and therefore Dudkiewicz must have a categorizing unit) configured to categorize each television program in said program information storage unit into a category with respect to which the television program has the highest category evaluation value (Dudkiewicz; Par. [0100], lines 20-23; Par. [0129]); and

a program-table display control unit (Fig. 12, el. 74) configured to display a program table (Dudkiewicz; Par. [0088], lines 1-13; the audio/video interface is interpreted as being operable to display a program table), in which each television program represents a category to which the television program is categorized, using the identification information stored in said storage unit (Dudkiewicz; Par. [0096]; a display of the program and the category in which it was categorized is interpreted as the program representing the category at which it was categorized; it is further interpreted that the category representation is resultant from the stored identification information).

Regarding Claim 5, Dudkiewicz in view of Marsh further discloses

a program specification reception unit (Dudkiewicz; Par. [0151]; client interface) configured to receive specification of a television program from the displayed program table (Dudkiewicz; Fig. 1; it is interpreted that specification of a program is received from a program that is also displayable on a program table; it is further interpreted that specification may be received from a program that is displayed on a program table; it is further interpreted that the claim limitation does not suggest extracting a program specification from the displayed program table), wherein

said program table display control unit displays a recommendation factor of the specified television program together with the program table (Dudkiewicz; Fig. 13; Par. [0151]).

Regarding Claim 6, Dudkiewicz in view of Marsh further discloses

a user-preference factor display control unit (Dudkiewicz in view of Marsh discloses the function of the user-preference factor display control unit and therefore Dudkiewicz in view of

Art Unit: 2423

Marsh must have a user-preference factor display control unit) configured to perform control so that each of the user preference factors stored in said user-preference-factor storage unit is displayed to represent a corresponding category in a visually distinguishable manner from the other categories (Par. [0082] and [0090]; finally, it is interpreted that the user personalization attributes assigned to each category are assigned to categories distinguishable from each other);

a modification instruction reception unit (Dudkiewicz in view of Marsh discloses the function of the modification instruction reception unit and therefore Dudkiewicz in view of Marsh must have a modification instruction reception unit) configured to receive, from the user, an instruction to modify a user preference factor of a category currently on display (Par. [0090]); and

a modification unit (Dudkiewicz in view of Marsh discloses the function of the modification unit and therefore Dudkiewicz in view of Marsh must have a modification unit) configured to modify contents stored in said user-preference-factor storage unit, in accordance with the received instruction (Par. [0090]; Dudkiewicz discloses updating/modifying category and keyword personalization attributes).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dudkiewicz in view of Marsh and in further view of Ohnuma et al. (US 2005/0060743) and Herz et al. (US 2001/0014868; herein referred to as Herz '868').

Regarding Claim 7, Dudkiewicz in view of Marsh discloses all the limitations of Claim 2. Dudkiewicz further discloses a keyword adding unit (interpreted as a unit that adds keywords to the recommendation system; Par. [0082]; the system can add or delete keywords; Dudkiewicz

Art Unit: 2423

discloses the function of a keyword adding unit and therefore Dudkiewicz must have a keyword adding unit). Additionally, Dudkiewicz further discloses category evaluation values for all the categories for a particular program may be 0 (Par. [0075], lines 33-36), a categorizing unit (Dudkiewicz discloses the function of the categorizing unit and therefore Dudkiewicz must have a categorizing unit) configured to categorize each television program into a category with respect to which the program has the highest category evaluation value (Par. [0100], lines 20-23; Par. [0129]), and a contribution factor assigning unit (Dudkiewicz discloses the function of the contribution factor assigning unit and therefore Dudkiewicz must have a contribution factor assigning unit) configured to assign, for each keyword added by said keyword adding unit, contribution factors (interpreted as a factor of the relevancy of a keyword to various categories) for the categories respectively (Par. [0082]; Dudkiewicz discloses the ability to change keyword goodness of fit scores).

Dudkiewicz does not disclose when the summation of the category evaluation values for all the categories is zero for an analysis of programs in the user history, to perform keyword addition by extracting words from the television program's program information, to categorize each program of a predetermined period, and where a contribution factor for a category is calculated as a value having: as a denominator, the number of times the added keyword appears in program information of all the programs during the predetermined period, and as a numerator, the number of times the added keyword appears in program information of programs of the category.

Marsh discloses a history storing unit operable to store therein a history of programs the user has watched or recorded in the past (Par. [0036] – [0039]; data is collected at specific

Art Unit: 2423

intervals; the intervals are interpreted as being predetermined) in order to perform an analysis for determining programs that would satisfy user's preferences.

Therefore, it would have been obvious by one of ordinary skill in the art at the time the invention was made to modify the program recommendation apparatus disclosed by Dudkiewicz with the user history feature disclosed by Marsh by incorporating a user history storage feature that monitors user viewing history and further updates a user profile with respect to an analysis of each program in the history at time intervals (perform a categorizing analysis of programs available in a predetermined period of time) so to provide more precise personal profiles-to-program category recommendation results (i.e. categorize each program to the category of which was calculated with the highest relevancy score; Par. [0039]). It is noted that the combination of Dudkiewicz and Marsh teaches that an analysis of the programs in the history for a predetermined period may result in a category evaluation score of zero. Moreover, it is well known in the art at the time of the invention to broadcast programs so to provide programs for a vast number of consumers.

Dudkiewicz in view of Marsh does not disclose when the summation of the category evaluation values for all the categories is zero for an analysis of programs in the user history, to perform keyword addition by extracting words from the program's program information and where a contribution factor for a category is calculated as a value having: as a denominator, the number of times the added keyword appears in program information of all the programs during the predetermined period, and as a numerator, the number of times the added keyword appears in program information of programs of the category.

Ohnuma discloses adding a keyword to a control section by extracting a preference keyword a program's program information (Par. [0093] and [0094]).

Therefore, it would have been obvious by one of ordinary skill in the art at the time the invention was made to enhance the program recommendation system disclosed by Dudkiewicz in view of Marsh to modify the keyword addition feature disclosed by Dudkiewicz to additionally include a feature that would automatically include additional keywords from the program description of a program, when the category analysis of the program outputs a null result, by extracting additional keywords from the program description as to categorize a program already viewed by the user so to accurately recommend programs for users based on valuable preference indications such as viewing tendencies.

Dudkiewicz in view of Marsh and Ohnuma does not disclose where a contribution factor for a category is calculated as a value having: as a denominator, the number of times the added keyword appears in program information of all the programs during the predetermined period, and as a numerator, the number of times the added keyword appears in program information of programs of the category.

Herz '868' (Par. [0139] - [0140]) discloses determining the score of a word (interpreted as a contribution factor) by multiplying the term frequency of the term in a document with the inverse (analogous to dividing) of the calculation of the number of times the word appears in a textual attribute (Par. [0052] – [0072]; the attributes are interpreted as categories). It is further interpreted that the inverse of this calculation represents the score (contribution factor) in a different manner.

Therefore, it would have been obvious by one of ordinary skill in the art at the time the invention was made to incorporate the contribution factor calculation, disclosed by Herz '868', into the program recommendation system, as disclosed by Dudkiewicz in view of Marsh and Ohnuma, in attempting to categorize, when a null categorizing result is concluded for a program of the user's history, determining the frequency of the extracted keyword in the program description and comparing this number to the evaluation of how often this extracted keyword appears in offers of a category (Herz '868'; Par. [0140]) so to accurately categorize keywords for future use by the program recommendation system (Par. [0140]). Moreover, it would have been obvious by one of ordinary skill in the art to perform the function of calculating the number of keyword appearances in a program description to any number of programs and program descriptions (i.e. the number of program descriptions of the programs in the user history before the recommendation system is updated) in analyzing more data of the valuable user viewing preferences as to accurately update user profiles so to accommodate the user by improving the categorization feature of the program recommendation system.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 2423

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARMINE MALANGONE whose telephone number is (571)270-5682. The examiner can normally be reached on Monday - Friday, 8:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Y. Koenig can be reached on (571)272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.M.

/Andrew Y Koenig/
Supervisory Patent Examiner, Art Unit 2423